

(3 Hours)

[Total Marks : 100]

N.B. : (1) Question No. 1 is **compulsory**.(2) Attempt any **four** questions out of the remaining **six** questions.(3) **Figures** to the **right** indicate **full** marks.

1. Consider the following online shopping portal :— 20
 A customer visits the online shopping portal. A customer may buy item or just visit the page and logout. The customer can select a segment, then a category and brand to get different products in the desired brand.
 The customer can select product for purchasing. The process can be repeated for more items. Once the customer finishes selecting the product/s, the cart can be viewed. If the customer wants to edit the final cart it can be done here. For final payment the customer has to login the portal. If the customer is visiting for the first time he must register with the site, else the customer must use the login page to proceed.
 Final cart is submitted for payment and card details and address are to be confirmed by the customer. Customer is confirmed with a shipment Id and delivery of goods within 15 days. Draw a detailed class diagram and use case diagram for the above case study.
2. (a) "Requirements are fixed". Which model will you prefer and why ? 5
 (b) Write the advantages of PERT chart. 5
 (c) Explain COCOMO used for software estimation. 5
 (d) Explain Task Network. 5
3. (a) What is an analysis model ? List the objects of analysis model ? How do you identify these objects ? 10
 (b) Explain Agile process with its advantages. Explain any one Agile process model. 10
4. (a) How to map following associations to code ? 10
 (i) Realization of unidirectional one-to-one associations
 (ii) Bidirectional one-to-one associations
 (iii) Bidirectional one-to-many associations
 (iv) Generalisation.
 (b) Explain the object oriented testing strategies. 10
5. (a) Draw an activity diagram for any one scenario of Airline reservation system. 10
 (b) Explain coupling and cohesion. How are the concepts of coupling and cohesion useful in arriving at good software design ? 10
6. (a) What is software quality Assurance ? Explain different quality matrices. 10
 (b) What is the need of software maintenance ? Explain types of software maintenance. 10
7. Write short notes on (any **two**) :— 20
 (a) Software configuration management
 (b) Project scheduling and Tracking
 (c) Software Architectural styles.